December 15, 2003

Mr. Michael Kansler
President
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

SUBJECT: VERMONT YANKEE NUCLEAR POWER STATION - EXTENDED POWER UPRATE ACCEPTANCE REVIEW (TAC NO. MC0761)

Dear Mr. Kansler:

By letter dated September 10, 2003, Entergy Nuclear Vermont Yankee, LLC and Entergy Nuclear Operations, Inc. (Entergy), licensees of the Vermont Yankee Nuclear Power Station (VYNPS), submitted the application, "Technical Specification Proposed Change No. 263 Extended Power Uprate" to the U.S. Nuclear Regulatory Commission (NRC). The proposed license amendment would allow an increase in the maximum authorized power level from 1593 megawatts thermal (MWT) to 1912 MWT. The purpose of this letter is to provide the results of the NRC staff's acceptance review of Entergy's extended power uprate (EPU) application for VYNPS. The acceptance review determines whether or not there is sufficient detail to allow the staff to proceed with its detailed technical review. The review also ensures that the application adequately characterizes the regulatory requirements and licensing basis of the plant.

Subsequent to the initial application dated September 10, 2003, Entergy provided a supplement dated October 1, 2003, and two supplements dated October 28, 2003. The acceptance review considered all information provided in the application and the three supplements.

The NRC staff's review has identified several areas lacking the information needed to allow the staff to complete its review of those areas. Deficiencies identified include the following:

1. Several areas are identified as being bounded by analyses performed as part of the Constant Pressure Power Uprate (CPPU) Licensing Topical Report (CLTR) or by the previous EPU Licensing Topical Report (ELTR) 1 and ELTR 2 assessments. Your application does not provide sufficient information to allow the NRC staff to be able to determine the applicability of the CPPU analyses to VYNPS. Specifically, information relating proposed VYNPS operation to the assumptions, evaluations, reviews, and assessments used in the CPPU analyses were not provided. Examples of these include:

    a. In the EPU Safety Analysis Report (SAR) (Attachment 4 to the September 10, 2003 application), items are stated by General Electric Nuclear Energy (GENE) to be dispositioned based on confirmation of consistency between VYNPS and the generic description provided in the CLTR (or ELTR-1 and ELTR-2). However, no details are provided to allow the NRC staff to understand how this VYNPS to CLTR confirmation was performed. Specifically, what criteria, key parameters, etc., were examined to confirm the consistency?

b. It is not clear to the NRC staff if VYNPS performed any independent confirmation or oversight of the GENE dispositions or assessments in compliance with the NRC CLTR Safety Evaluation Report (SER), Section 1.5, licensee expectations or restrictions, and applicable Title 10 of the *Code of Federal Regulation* (10 CFR) Part 50, Appendix B requirements. For example, Entergy should have conducted reviews, audits or inspections, or examined key parameters, or performed independent calculations, to support the engineering judgements made by GENE.

c. Items (e.g., in Section 2) of the EPU SAR are dispositioned based on experience and are stated to be confirmed because they will be evaluated for the uprated core prior to CPPU implementation. However, these evaluations will be performed by Global Nuclear Fuel close to the reload outage and will only be available in the Supplemental Reload Licensing Report and the Core Operating Limits Report. There is no discussion as to how these confirmations, prior to CPPU implementation, will be verified by Entergy (by reviews, audits, etc.) in accordance with the NRC CLTR SER, Section 1.5, licensee expectations or restrictions, and applicable 10 CFR 50, Appendix B requirements.

While these are only examples, you should provide an update for all appropriate sections of your application to address how these confirmations were performed.

2. The NRC staff's 12-month review schedule for an EPU request is based on an application using RS-001, "Review Standard for Extended Power Uprates." The NRC staff intends to use the template safety evaluation (SE) in RS-001 when generating a plant-specific SE for the VYNPS power uprate. The template SE provides a draft regulatory evaluation and conclusion for each review area. The NRC staff expected that Entergy would review the template to ensure that it reflects the licensing basis for the plant. Also, you should ensure sufficient technical information is provided so that the NRC staff can verify the regulatory evaluation and develop the technical evaluation to support the conclusion. The template was developed to provide guidance so that the NRC staff review could be completed without extensive requests for additional information.

   The NRC staff received your supplements dated October 1 and October 28, 2003, providing a matrix cross-referencing the design criteria within the licensing basis for VYNPS to the General Design Criteria (GDC) in 10 CFR, Part 50, Appendix A. To aid the NRC staff in preparing the plant-specific SE for the VYNPS EPU, please confirm that replacing the numerical values of the GDC in the template regulatory evaluation section of the SE with the corresponding VYNPS design criteria from your matrix would not result in an SE that is inconsistent with the VYNPS licensing basis. If inconsistencies are created by this approach, please provide markups of the template SE in RS-001 identifying and correcting any inconsistencies that would be created.

   Through the acceptance review, the NRC staff also noted that in many review areas there was insufficient information provided to arrive at an adequate safety conclusion, as described in the template. Examples of these review areas include flood protection, equipment and floor drainage systems, internally generated missiles, and ultimate heat sink. This information needs to be provided for the NRC staff to complete its review.

3. As discussed in a public meeting at NRC Headquarters on October 30, 2003, Entergy stated that a supplement would be provided in the near future regarding steam dryer integrity. This information is needed by the NRC staff before the application is considered complete. Since steam dryer integrity is an emerging industry issue, you should consider if any new developments on this issue impact the VYNPS submittal and provide further supplements as deemed necessary.

The NRC staff notes that the original application was incomplete in several other areas. However, these areas were addressed by supplements as follows:

- In the area of EPU testing, your application did not adequately cover the scope of areas identified in draft Standard Review Plan, Section 14.2.1, "Generic Guidelines for Extended Power Uprate Testing Programs," which was issued in December 2002 for interim use and public comment. Specifically, your application did not provide sufficient information to allow the NRC staff to conduct a review of your basis for not reperforming certain tests that were performed during the initial startup test program. In addition, your application did not provide a sufficient description of testing you plan to perform to confirm that plant equipment modified to support the EPU will perform in a manner consistent with your Updated Final Safety Analysis Report. However, subsequent to the initial application, the NRC staff inquired about these testing issues and you submitted Supplement 3, dated October 28, 2003. The NRC staff determined that the information provided in Supplement 3 was sufficient to allow the detailed review of your EPU test program to continue.

- As noted in your letter dated September 10, 2003, an assessment of the effects of the EPU on plant and transmission grid stability was not complete at the time of the initial application. However, this information was provided in Supplement 2 on October 28, 2003.

Based on the deficiencies described in items 1, 2, and 3, above, the NRC staff does not consider your application to be complete at this time. Upon receipt of information that adequately addresses these deficiencies, the NRC staff will consider your application acceptable such that the detailed technical review can be completed. The NRC staff will continue its review in the areas for which sufficient information has already been provided; however, the 12-month review schedule will start when a complete application is received. This position is consistent with my letter to Mr. Andrew C. White of GENE dated June 25, 2003, which stated that if an EPU submittal is made in parts, the NRC can only commit to completing our review 12 months from the time that the latest supplement to the application was provided. Copies of this letter were provided to all Boiling Water Reactor licensees. The letter is available electronically at the NRC's website in the Agencywide Documents Access and Management System (ADAMS) under accession no. ML031780157.

The NRC staff would also like to note that it is currently reviewing two licensing actions with potential impacts on the power uprate application. These are the Average Power Range Monitor/Rod Block Monitor/Technical Specification/Maximum Extended Load Line Limit Analysis (ARTS/MELLLA) and Alternative Source Term (AST) applications. These licensing actions must be completed prior to the power uprate; therefore, timely resolution of issues related to these licensing actions is important to prevent any delays in the review of your EPU application.

If you have any questions, please contact the VYNPS Project Manager, Mr. Richard Ennis, at (301) 415-1420.

Sincerely,

/RA/

Cornelius F. Holden, Director
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-271

cc: See next page

If you have any questions, please contact the VYNPS Project Manager, Mr. Richard Ennis, at (301) 415-1420.

Sincerely,

/RA/

Cornelius F. Holden, Director
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-271

cc: See next page

DISTRIBUTION

PUBLIC	TChan	REckenrode	HWalker
PDI-2 Reading	RDavis	JBongarra	MHart
DRoberts	LLund	JTappert	FAkstulewicz
REnnis	KParczewski	SImboden	EKendrick
AMcMurtray	KManoly	DSolorio	CHolden
CAnderson, RGN I	CWu	DReddy	ELeeds
EMarinos	DThatcher	SWeerakkody	TMarsh
HGarg	RPettis	RGallucci	BSheron
RJenkins	KCoyne	MRubin	MShuaibi
NTrehan	EWeiss	MStutzke	JJolicoeur
SCoffin	RPedersen	RDennig	
BElliot	DTrimble	RLobel	

ACCESSION NO.: ML033180088 * See previous concurrence

OFFICE	PDI-2/PM	PDI-2/LA	LPM*	PDI-2/SC(A)	PD-I/D
NAME	REnnis	SLittle for CRaynor	AMcMurtray	DRoberts	CHolden
DATE	12/15/03	12/15/03	12/12/03	12/15/03	12/15/03

OFFICIAL RECORD COPY

Vermont Yankee Nuclear Power Station

cc:

Regional Administrator, Region I
U. S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406-1415

Mr. David R. Lewis
Shaw, Pittman, Potts & Trowbridge
2300 N Street, N.W.
Washington, DC 20037-1128

Ms. Christine S. Salembier, Commissioner
Vermont Department of Public Service
112 State Street
Montpelier, VT 05620-2601

Mr. Michael H. Dworkin, Chairman
Public Service Board
State of Vermont
112 State Street
Montpelier, VT 05620-2701

Chairman, Board of Selectmen
Town of Vernon
P.O. Box 116
Vernon, VT 05354-0116

Mr. Michael Hamer
Operating Experience Coordinator
Vermont Yankee Nuclear Power Station
320 Governor Hunt Road
Vernon, VT 05354

G. Dana Bisbee, Esq.
Deputy Attorney General
33 Capitol Street
Concord, NH 03301-6937

Chief, Safety Unit
Office of the Attorney General
One Ashburton Place, 19th Floor
Boston, MA 02108

Ms. Deborah B. Katz
Box 83
Shelburne Falls, MA 01370

Mr. Raymond N. McCandless
Vermont Department of Health
Division of Occupational
and Radiological Health
108 Cherry Street
Burlington, VT 05402

Manager, Licensing
Entergy Nuclear Vermont Yankee, LLC
P.O. Box 0500
185 Old Ferry Road
Brattleboro, VT 05302-0500

Resident Inspector
Vermont Yankee Nuclear Power Station
U. S. Nuclear Regulatory Commission
P.O. Box 176
Vernon, VT 05354

Director, Massachusetts Emergency
Management Agency
ATTN: James Muckerheide
400 Worcester Rd.
Framingham, MA 01702-5399

Jonathan M. Block, Esq.
Main Street
P.O. Box 566
Putney, VT 05346-0566

Mr. John Kelly
Director, Nuclear Safety Assurance
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

Mr. Gary Taylor
Chief Executive Officer
Entergy Operations
1340 Echelon Parkway
Jackson, MS 39213

Vermont Yankee Nuclear Power Station

cc:

Mr. John Herron
Sr. VP and Chief Operating Officer
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

Mr. Dan Pace
Vice President, Engineering Entergy
Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

Mr. Randall Edington
Vice President, Operations Support
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

Director of Oversight
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

Mr. John M. Fulton
Assistant General Counsel
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

Mr. Jay K. Thayer
Site Vice President
Entergy Nuclear Operations, Inc.
Vermont Yankee Nuclear Power Station
P.O. Box 0500
185 Old Ferry Road
Brattleboro, VT 05302-0500

Mr. Ken L. Graesser
BWR SRC Consultant
38832 N. Ashley Drive
Lake Villa, IL 60046

Mr. Jim Sniezek
BWR SRC Consultant
5486 Nithsdale Drive
Salisbury, MD 21801

Mr. Ron Toole
BWR SRC Consultant
605 West Horner Street
Ebensburg, PA 15931

Ms. Stacey Lousteau
Treasury Department
Entergy Services, Inc.
639 Loyola Avenue, Mail Stop L-ENT-15E
New Orleans, LA 70113

Mr. Raymond Shadis
New England Coalition
Post Office Box 98
Edgecomb, ME 04556

Mr. James P. Matteau
Executive Director
Windham Regional Commission
139 Main Street, Suite 505
Brattleboro, VT 05301